REMARKS

Claims 1-12 are pending in the present application. The Examiner has rejected all of the pending claims. Based on the following remarks, reconsideration and further examination are respectfully requested.

Claimed Embodiments of The Present Invention

In the embodiment of the present invention claimed in independent Claim 1, the tire condition monitoring apparatus includes a feature that each transmitter includes a condition detecting device for detecting the condition of the corresponding tire, and an acceleration detecting device for detecting the direction of acceleration accompanying rotation of the corresponding tire. Each transmitter wirelessly transmits data containing data representing the condition of the tire detected by the condition detecting device and data representing the direction of the acceleration detected by the acceleration detecting deice. When receiving data from one of the transmitters, a receiver determines the position of the tire in which the transmitter that is the source of the data is provided based on the levels of received signals each sent from a first reception antenna and a second reception antenna.

The embodiment of the present invention claimed in independent Claim 9 includes a method for monitoring conditions of tires, and includes a first step including a condition detecting step for detecting the condition of each tire, and an acceleration detecting step for detecting the direction of acceleration accompanying rotation of the corresponding tire, wherein data containing data representing the detected condition of the tire and data representing the detected direction of the acceleration is wirelessly transmitted. The method also includes a second step, wherein when the data of the first step is received the position of the tire is determined based on the level of a signal related to the received data.

Legal Doctrine Relevant to 35 U.S.C. § 102

"A claim is anticipated only if each and every element set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil. Co. of California*, 814 F.2d 628, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987).

Rejections Under 35 U.S.C. §102

The Examiner rejects Claims 9, 10 and 12 under 35 U.S.C. 102(e) as being anticipated by U.S. Patent Application No. 2004/0021562 to Prenninger. The rejection is respectfully traversed.

Inter alia, the Examiner asserts that Prenninger discloses a method that includes a first step including a condition detecting step for detecting a condition of a tire and an acceleration detecting step for detecting a direction of acceleration accompanying rotation of the corresponding tire, wherein data containing data representing the detected condition of the tire and data representing the detected direction of the acceleration is wirelessly transmitted; and a second step, wherein, when the data of the first step is received the position of the tire is determined based on the level of a signal related to the received data. The undersigned respectfully disagrees with the Examiner's assertions.

As the Examiner points out, Prenninger discloses a kinematics sensor 17 as part of a tire module 3, which measures a physical variable, which can only be measured in motion, i.e., during travel. Page 3, paragraph [0047]. However, as pointed out in Prenniger, the values measured by the kinematics sensor 17 are fed to a microprocessor 11 that is part of the tire module 3. Page 3, paragraph [0047]; Figure 2. If the wheel rotation is above a predetermined reference value or a limit value the microprocessor 11 may be instructed to initiate assignment mode. Page 3, paragraph [0049]. As a result, a signal is transmitted for a predetermined period, which contains at least a tire-specific identifier and where necessary values for pressure and/or temperature. Page 4, paragraph [0049].

Prenniger does not state that the values measured by the kinematics sensor 17 include a direction of the acceleration of a tire, as recited in Claim 9. Rather, Prenniger only indicates that the kinematics sensor 17 measures a physical variable that is a measure of the rotation or speed of the wheel, and that if the wheel rotation is above a predetermined reference value or a limit value, corresponding to a threshold value for vehicle speed, the microprocessor may be instructed to initiate assignment mode. Nowhere does Prenniger state that the kinematics sensor 17 is measuring a direction of acceleration of a tire.

Additionally, Claim 9 requires data containing data representing the detected condition of the tire and data representing the detected direction of acceleration be wirelessly transmitted. Prenninger does not disclose wirelessly transmitting data that includes data representing the direction of acceleration and data representing the detected condition of the tire. Accordingly, for at least the reasons stated above, Prenninger does not anticipate any of the pending claims, including Claim 9.

Claims 10-12 are dependent on Claim 9, include all of the limitations of Claim 9 and are therefore allowable for the same reasons as stated above with respect Claim 9. Moreover, Claims 10-12 recite additional limitations that further distinguish over Prenninger. For example, despite the Examiner's assertion that Prenninger does disclose the feature recited in Claim 12, Prenninger does not use acceleration direction data when determining a position of a tire, as required by Claim 12.

Legal Doctrine Relevant to 35 U.S.C. § 103

To establish prima facie obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA

1974). In addition, there must be a teaching or suggestion to make the claimed combination and a reasonable expectation of success that are found in the prior art, and not in the applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

Rejections Under 35 U.S.C. §103

The Examiner rejects Claims 1-3, 6 and 8 under 35 U.S.C. 103(a) as being anticipated by some combination of Prenninger; U.S. Patent Application No. 2002/0113692 to Normann et al.; and/or U.S. Patent No. 6,731,205 to Schofield et al. The rejections are respectfully traversed.

The Examiner asserts that Normann et al. disclose a tire condition monitoring apparatus with a plurality of transmitters each of which is provided in one of the tires. Each transmitter includes a condition detecting device for detecting the condition of the corresponding tire; a first reception antenna corresponding to left and right front tires, wherein the first reception antenna receives data from the transmitters of the left and right front tires; a second reception antenna corresponding to left and right rear tires, wherein the second reception antenna receives data from the transmitters of the left and right rear tires; and a receiver that receives data from the transmitters. The Examiner further asserts that the receiver when receiving data from one of the transmitters determines the position of the tire in which the transmitter that is the source of the data is provided based on the levels of received signals each sent from the first reception antenna and the second reception antenna.

The Examiner correctly points out that Norman does not teach an acceleration detecting device for detecting the direction of acceleration accompanying rotation of the corresponding tire, wherein each transmitter wirelessly transmits data containing data representing the condition of the tire detected by the condition detecting device and data representing the direction of acceleration. However, as stated above, the Examiner asserts that Prenninger teaches an acceleration detecting device for detecting the direction of acceleration accompanying rotation of a corresponding tire, wherein each transmitter wirelessly transmits data containing data representing the condition of the tire detected by the condition detecting device and data representing the direction of the acceleration detecting device. The undersigned respectfully disagrees with the Examiner's assertions regarding Normann and Prenninger.

Normann does not disclose a receiver that when receiving data from one of the transmitters determines the position of the tire in which the transmitter that is the source of the data is provided based on the levels of received signals each sent from the first reception antenna and the second reception antenna. Indeed, Normann indicates that a transmitter is associated with a tire position by using an identifier. Page 3, paragraph 0020, states that the radio signals transmitted by the wheel mounted electronic unit contain several parts in digital form, namely a preamble, the identifier, a tire pressure signal and a postamble. Thus, Normann fails to disclose the limitation recited in Claim 1, that the position of the tire in which the transmitter that is the source of the data is provided based on the levels of received signals each sent from the first reception antenna and the second reception antenna.

Moreover, as stated above with respect to Claim 9, Prenninger does not state that a direction of acceleration of a tire is measured by the kinematics sensor 17, as is required by Claim 1. Prenninger also fails to disclose transmitters that wirelessly transmit data containing data representing the detected condition of the tire and data representing the detected direction of acceleration, as recited in Claim 1.

For all of the reasons stated above, namely that the combination of Normann and Prenninger fail to teach all of the limitations of Claim 1, Claim 1 is allowable over the combination of Normann and Prenninger.

Claims 2, 3, 6 and 8 are dependent on Claim 1, include all the limitations of Claim 1 and are allowable for the same reasons stated above with respect Claim 1. Moreover, Claims 2, 3, 6 and 8 recite additional limitations that further distinguish over the cited references. Despite the Examiner's assertions to the contrary, Prenninger does not disclose the additional limitation of Claim 2, namely that the rotation direction of the tires is determined based on the speed and a moving direction of the vehicle. With respect to Claim 3, as already stated above, Normann indicates that an identifier is used to determine the position of the tire associated with the transmitter, and not, as recited in Claim 3, based on the levels of received signals each sent from the first reception antenna and the second reception antenna.

Moreover, with respect to Claim 6, the Examiner states that Schofield teaches the moving direction of the vehicle being based on a signal representing a position of the shift lever. The undersigned respectfully disagrees with Examiner's assertion regarding Schofield. Schofield indicates in column 9, lines 3-12; and column 16, lines 16-20, that an event or condition may activate a comparison of the pressure sensor output and the deduced characteristic pattern. A shift into gear may be one event or condition that may activate the comparison. However, Schofield does not disclose that a moving direction of the vehicle is based on a signal representing a position of the shift lever, as recited in Claim 6.

Legal Doctrine Relevant to Same Invention Double Patenting

The test for same invention double patenting is "whether one of the claims being compared could be literally infringed without literally infringing the other." *In re Vogel*, 422 F.2d 164 USPQ 619 (CCPA 1970).

Rejection Based on Double Patenting

The Examiner rejects Claims 1-12 under 35 U.S.C. 101 as claiming the same invention as that of Claims 1-18 of prior U.S. Patent No. 6,705,155.

The claims of U.S. Patent No. 6,705,155 all include language similar to "generating a specific pattern signal for each tire when the tires rotate, wherein the pattern signal generated for each left tire is different from the pattern signal generated for each right tire." In contrast all of the claims of the present application, in addition to other differences, include language similar to "detecting the direction of acceleration accompanying rotation of a corresponding tire."

Accordingly, an apparatus for monitoring a condition of a vehicle tire that includes a signal generator in each tire that generates a signal different from another tire, but does not measure the direction of acceleration of a tire, may infringe the claims of U.S. Patent No. 6,705,155, but would not infringe the claims of the present application. Thus, the present application does not claim the same invention or subject matter as U.S. Patent No. 6,705,155.

In view of the foregoing remarks, it is respectfully submitted that the present application is in condition for allowance and such action is respectfully requested. In the event that a telephone conversation would further prosecution and/or expedite allowance, the Examiner is invited to contact the undersigned.

Respectfully submitted,

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